What is claimed is:

1. A computer system comprising:
a plurality of processing nodes, wherein a processing node comprises:
at least one processor; and
at least one local memory, the at least one local memory in communication with each processing node; and
maintenance software, wherein the maintenance software determines whether data is read substantially more frequently than it is written and replicates the data that is read substantially more frequently than it is written among the plurality of processing nodes.

2. The system of claim 1, wherein a first processing node reads data from a second processing node by reading local memory at the second processor node.

3. The system of claim 1, wherein the memories comprise a global address space.

4. The system of claim 1, wherein the data includes data written as a result of an event external to the system.

5. The system of claim 1, wherein the data includes at least portions of data structures.

6. The system of claim 5, wherein the maintenance software broadcasts new data to the processing nodes when the data needs to be updated.

7. The system of claim 1, wherein the data is distributed to only a portion of the plurality of local memories.

8. The system of claim 1, wherein the maintenance software is included as part of an operating system.

9. The system of claim 1, wherein the maintenance software is part of applications running on the system.

10. The system of claim 1, wherein the plurality of processing nodes includes four processing nodes.

11. The system of claim 1, wherein the at least one processor includes sixteen processors.

12. The system of claim 1, wherein the at least one cache memory includes sixteen cache memories.

13. In a computer system having multiple processing nodes, the processing nodes in communication with local memories, a method comprising:

reviewing classes of data;

identifying whether at least a portion of data of a certain class used by the processing nodes is read substantially more frequently than it is written; and

replicating copies of the data of that class in the local memories.

14. The method of claim 13, wherein the local memories are part of a global address space and wherein replicating includes writing the data in locations within the global address space.

15. The method of claim 13, wherein replicating includes broadcasting the data to the local memories if the data needs updating.

16. The method of claim 13, wherein replicating copies in local memories includes distributing copies of the data to only a portion of the local memories in the computer system.

17. The method of claim 13, wherein determining whether data is read substantially more frequently than it is written is performed at an operating system level as applications are running.

18. The method of claim 13, wherein replicating copies of the data in local memories includes distributing copies of the data to local memory using an operating system.

19. The method of claim 13, wherein replicating copies of the data in local memories includes executing applications in one or more of the processing nodes to replicate copies of the data in the local memory.

20. The method of claim 13, wherein replicating copies of the data includes replicating at least portions of data structures.